What is Claimed Is:

1. A spacecraft mounted instrument thermal control system, in which the spacecraft is characterized in part by a spacecraft bus supporting at least one instrument tending to generate heat, and one or more spacecraft thermal radiator panels spatially separated from at least one instrument, the system comprising:

at least one active cooler mounted to the spacecraft at a location spatially separated from the instrument, and thermally coupled between the instrument and at least one of the spacecraft thermal radiator panels.

2. The system as recited in claim 1, in which the active cooler comprises a cryocooler.

3. The system as recited in claim 2, wherein the cryocooler includes a compressor and cold head assembly mounted to a north thermal radiator panel of the spacecraft.

4. The system as recited in claim 3, including a thermal link, and in which the cryocooler assembly includes a thermal link coupled to the instrument FPA or other point requiring cryogenic cooling.

5. The system as recited in claim 4, in which the thermal link comprises a flexible high conductivity material.

6. The system as recited in claim 5, in which the thermal link is a high thermal conductivity braided material.

7. The system as recited in claim 6, in which the material is copper.

8. The system as recited in claim 4, in which the cryocooler assembly includes a working fluid tube passing through an opening in an earth platform of the spacecraft, for access to the instrument portion to be cooled.

9. The system as recited in claim 1, in which the active cooler is one among a bank of multiple active coolers.

10. The system as recited in claim 2, in which the cryocooler is one among a bank of multiple cryocoolers.

11. The system as recited in claim 1, including a closed loop control system configured to measure temperature of the instrument, receive a prescribed set temperature, and in response supply a control signal to the active cooler.

12. The system as recited in claim 1, in which the active cooler is thermally coupled to any one or more of a north, south, east, west or earth panel of the spacecraft.

13. The system as recited in claim 9, in which the bank of active coolers is sized to provide a required thermal capability, redundancy and reliability.

14. The system as recited in claim 4, in which at least one cryocooler is a multiple stage cryocooler, and multiple links emanate from the cryocooler.

15. The system as recited in claim 1, in which the spacecraft includes two solar array wings extending therefrom.

16. A method of cooling spacecraft borne instrumentation, comprising the steps of positioning at least one active cooler at a location spatially separated from the instrumentation, and thermally coupling the cooler between the instrumentation and at least one of the spacecraft thermal radiator panels.

17. The method as recited in claim 16, including sensing temperature of the instrumentation, receiving a prescribed set point temperature, and in response, supplying a control signal to the at least one active cooler.

18. The method as recited in claim 17, including on-board processing of measured and set point temperatures to supply the control signal.

19. The method as recited in claim 17, in which the at least one active cooler is within a bank of active coolers, and the coolers are individually controlled.

20. The method as recited in claim 19, including matrixing of thermal links between active coolers and instrumentation.